

AMENDMENTS TO THE CLAIMS

Please cancel claims 2, 10, 11, and 14-81, and add claims 82 and 83. The current listing of claims replaces all prior listings.

1. (Previously Presented) A method for determining the gender of a subject from the *canis familiaris* species, comprising:

a) contacting a nucleic acid sample from the subject with a first and a second oligonucleotide primer, wherein the first and/or second oligonucleotide primer is complementary to consensus regions between SEQ ID NO:22 and SEQ ID NO:23, and wherein such first and second primers flank non-consensus regions between SEQ ID NO:22 and SEQ ID NO:23;

b) amplifying the flanked non-consensus regions, wherein the flanked non-consensus regions of SEQ ID NO:22 contain at least one gap in sequence alignment compared to the flanked non-consensus regions of SEQ ID NO:23, such that different length amplification products result if sequences comprising both SEQ ID NO:22 and SEQ ID NO:23 are present in the sample; and

c) detecting amplification products resulting from step (b), wherein detection of amplification products of different lengths correlates with male gender.

2. (Canceled)

3. (Previously Presented) The method of claim 1, comprising determining the presence of amplified products as set forth in SEQ ID NO: 10 and SEQ ID NO:11.

4. (Previously Presented) The method of claim 3, wherein the first oligonucleotide primer binds to SEQ ID NO:6 and SEQ ID NO:7 and the second oligonucleotide primer binds to SEQ ID NO:8 and SEQ ID NO:9.

5. (Original) The method of claim 4, wherein the first primer comprises at least 10 nucleotides of SEQ ID NO:3 and the second primer comprises at least 10 nucleotides of SEQ ID NO:5.

6. (Original) The method of claim 5, wherein the first primer is SEQ ID NO:3 and the second primer is SEQ ID NO:5.

7. (Original) The method of claim 5, wherein the first primer is SEQ ID NO:4 and the second primer is SEQ ID NO:5.

8. (Previously Presented) The method of claim 5, wherein a first length is indicative of the non-consensus region of SEQ ID NO:22 and a second length is indicative of the non-consensus region of SEQ ID NO:23.

9. (Previously Presented) A method for determining the gender of a subject from the *canis familiaris* species, comprising:

a) contacting a nucleic acid sample from the subject with a first and a second oligonucleotide primer, wherein the first and second oligonucleotide primers comprise sequences which are complementary to consensus regions between SEQ ID NO:22 and SEQ ID NO:23, and wherein such first and second primers flank non-consensus regions between SEQ ID NO:22 and SEQ ID NO:23;

b) amplifying the non-consensus regions, wherein the non-consensus regions of SEQ ID NO:22 contain at least one gap in sequence alignment compared to the non-consensus regions of SEQ ID NO:23, such that a single product results if non-consensus sequences of SEQ ID NO:23 are absent in the sample; and

c) determining the presence or absence of the non-consensus regions in products resulting from the amplification in step (b),
wherein failure to determine the non-consensus regions comprising SEQ ID NO: 23 correlates with female gender.

Claims 10-11. (Canceled)

12. (Previously Presented) The method of claim 9, wherein a first oligonucleotide primer binds to SEQ ID NO:6 and/or SEQ ID NO:7 and a second oligonucleotide primer binds to SEQ ID NO:8 and/or SEQ ID NO:9.

13. (Previously Presented) The method of claim 9, wherein amplification of non-consensus regions of SEQ ID NO:22 or SEQ ID NO:23 distinguish the male gender of the species from the female gender of the species.

Claims 14-81. (Canceled)

82. (New) The method of claim 1 or 9 further comprising:

- i) contacting a portion of the nucleic acid sample of step 1) with a second set of primers which are complementary to at least one microsatellite locus;
- ii) amplifying the microsatellite locus; and
- iii) detecting different amplified products.

83. (New) The method of claim 82, wherein the microsatellite locus is at least one of PEZ1/CATA1, PEZ3, PEZ5, PEZ6, PEZ8, PEZ10, PEZ11, PEZ12, PEZ13, PEZ15, PEZ16, PEZ17, PEZ20, PEZ21, FH2010, FH2054, and FH2079.